

**MONTGOMERY COUNTY GOVERNMENT
ROCKVILLE, MARYLAND
CLASS SPECIFICATION**

**Code No. 205001
Grade 23**

EMERGENCY VEHICLE MAINTENANCE CREW CHIEF

DEFINITION OF CLASS:

This is first line supervisory work directly supervising a team of Emergency Vehicle Mechanic Technicians, and performing, as needed, a full array of journey level Emergency Vehicle Mechanic Technician work, i.e., inspection, preventive maintenance, repair and quality assurance, for a wide variety of specialized light, medium, and heavy duty mobile Fire and Rescue Service (FRS) equipment, such as (a) mobile structural firefighting apparatus (squads, pumpers, tankers and aerial equipment) and (b) mobile emergency medical services (EMS) equipment (such as ambulances, evacuation vehicles and mass casualty vehicles) and (c) specialized portable fire and rescue service equipment. Primary business contacts are with (a) employees of the team under the crew chief, to provide supervision, technical/subject-matter advice, and on-the-job training, (b) other fire and EMS personnel (including career staff and volunteers) at various echelons, as well as personnel in various County departments/agencies to coordinate work efforts and exchange information concerning maintenance and repairs, and (c) fire/rescue/EMS equipment dealers and repair facility representatives, contractors and vendors to help specify and inspect new equipment, to resolve problems involving work not completed in accordance with service contracts, and to perform related functions. This class of work may entail some public service/assistance, but it is incidental to the primary focus of the work performed.

An employee in this class is responsible for planning, assigning and reviewing the work of an assigned crew (team), ensuring its safe practices, technical effectiveness and efficiency, and performing a full array of supervisory personnel functions. An Emergency Vehicle Maintenance Crew Chief also performs hands-on work in the trade at the journey level. Work involves planning, implementing, coordinating, checking and inspecting scheduled and unscheduled work; monitoring repair work on the apparatus and equipment; answering technical questions; approving requisition and use of non-standard parts; preparing reports; and addressing matters/resolving problems associated with supervision of such work. Completed repair work is subject to technical inspection; supervisory work is reviewed for conformance to established policies, procedures and other requirements. Work is performed in accordance with various technical guides (such as manufacturer/service manuals and bulletins) and processes (such as troubleshooting processes), County Personnel Regulations and administrative guidelines, SOPs, as well as Federal and State requirements and industry standards, such as National Fire Protection Association (NFPA) standards (including NFPA 1071 and 1911); many guides require employees to apply judgment in their selection and application. Additionally, employees in this class review and recommend approval of new methods and procedures, such as development/modification of some aspects of maintenance schedules. Complexity of the work is derived from the varied duties and responsibilities involved in overseeing repair and maintenance of a wide range of custom-built vehicles and specialized equipment; in assessing unusual and non-standard matters; in responding to competing priorities of County and volunteer fire/rescue stations within a prescribed time frame; in addressing and resolving personnel management issues; in maintaining proficiency in a technically complex field of work; and in responding to the needs and questions of subordinates and customers whose vehicles and

equipment are being serviced. The work also regularly requires employees to determine the nature and extent of repairs to be made in-house or by vendor in light of labor and parts cost, warranty documents, vehicle downtime, age of vehicle, operator and vehicle safety requirements, and other factors for a diverse array of equipment. The impact of properly performed work of employees in this class is the safe, timely and cost effective service, inspection and delivery of vehicles and equipment required by FRS. Work is carried out primarily within a vehicle maintenance shop facility, but some off-site work at manufacturers (to inspect vehicles being made) and in the field (to help service a vehicle outside, or tow it to, the shop) is required. Outdoors repair work may be performed in any weather. Demonstrating inspection, maintenance, and repair work methods and procedures and performing hands-on repairs and direct inspection of vehicles and equipment, together, comprise approximately forty (40) percent of the work time, and involve exposure to loud noises, vibrations, dust, dirt and grease. In performing these functions, employees perform physically strenuous work while standing, lying down, or sitting; and push, lift and carry or move and position work objects weighing up to, or requiring force of, one hundred (100) pounds, and, occasionally, work objects/forces over one hundred (100) pounds; the employee obtains assistance or uses mechanical advantage, as appropriate. Also, on the approximate forty (40) percent basis, work requires employees to move work objects and use tools near or immediately adjacent to energized equipment, which exposes employees to the potential adverse effects of compressed air, electrical current, belts, pulleys, fan blades and sharp edges. Additional hazards faced on in performing these functions include spring-loaded parts, lifts and presses on wet/greasy floors, hot hydraulic fluids and oils, use of acetylene and oxygen cutting torches near flammable substances, battery acid and cleaning solvents, and working at heights of from ten to thirty feet above the ground or floor level. Performance of the work of the class may occasionally expose employees to human waste and/or body fluids, as may be found in ambulances. These hazardous working conditions require employees to maintain situational awareness, strictly follow safety rules and procedures and use safety equipment, such as safety glasses, rubber or leather gloves, hearing protection, eye and face shield, respiratory mask, and steel-toe shoes. Despite these precautions, employees receive cuts, burns, bruises and strains as well as eye, ear, nose, throat and skin irritations.

EXAMPLES OF DUTIES: (Illustrative Only)

(1) Performs a full array of first level supervisory functions:

- Schedules, assigns, and reviews the full array of maintenance, repair and quality assurance-inspection tasks performed by journey level, and lower level, Emergency Vehicle Mechanic Technicians on the crew (team).
- Ensures that work is performed in a timely and cost effective manner that necessary parts are available and properly distributed, and that vehicle/apparatus and equipment history is checked and updated. Inspects on-site and vendor repairs, and determines whether vehicles/apparatus and equipment may be returned to service.
- Performs supervisory personnel functions, which involve regular participation in a variety of personnel matters affecting the team supervised (i.e., selection, orientation, training, preparing performance appraisals, leave approval, providing counseling, and minor disciplinary measures).
- Prepares work orders, writing a detailed description of problems to enable Emergency Vehicle Mechanic Technicians to properly evaluate needed repairs. Monitors their input on work orders, closes the work orders out in automated maintenance information database, enters all warranty information on new vehicles, and removes information concerning vehicles/apparatus and equipment removed from the fleet.

- Inspects and evaluates body damage/repairs, and prepares a detailed estimate of work needed, time/staff required, and cost.
- Prioritizes work and determines the necessary staffing to ensure that the required numbers and types of safe, serviceable vehicles/apparatus and equipment are available to stations.
- Inspects in progress or upon completion, on a recurring, complexity-based or other basis, as deemed necessary, work of various team members; this includes FRS outfitting and acceptance testing of new vehicles and road/performance testing of in-service vehicles to see that repair, maintenance, and inspection work is properly performed. Implements corrective action as appropriate.
- Communicates with representatives of FRS stations/companies (career and volunteer) to discuss and resolve problems concerning the repair/maintenance or inspection/quality control of their vehicles/apparatus and equipment.
- Furnishes technical advice and guidance on difficult/complex jobs (e.g., determining source of mechanical problem, best means of repair, and tools and parts needed to accomplish necessary work).
- Monitors vehicle/apparatus and equipment warranties to ensure that vendors make (or pay for) maintenance, repairs and replacements as agreed.
- Coordinates disposal of dead-lined vehicles/apparatus and equipment, ensuring that County insignias and equipment are removed.
- Monitors and enforces preventive maintenance schedules.
- Conducts weekly safety meetings with Emergency Vehicle Mechanic Technicians, facilitates monthly safety meetings, attends supervisor meetings, etc.
- Posts invoices to vendor accounts, and monitors purchase orders for available funds.
- Conducts tests of parts and equipment to improve the safety, economy and quality of repair and preventive maintenance operations.
- Provides recommendations regarding the purchase and disposal of shop tools and equipment.
- Conducts repair, preventive maintenance, and quality assurance/inspection tasks.
- Conducts inspections of vehicles/apparatus and equipment during production and upon delivery to ensure that manufacturers meet County specifications.
- Resolves problems with vendors.
- Oversees on-the-job training, and may coordinate or lead classroom training, of Emergency Vehicle Mechanic Technicians.
- Reads and interprets sketches, specifications, and service manuals, keeps abreast of service bulletins and other developments affecting the trade and equipment serviced, and ensures that subordinates are kept up-to-date.
- Conducts (or coordinates with third parties) State- and County-required annual service tests on pumpers and aerial ladders, and performs annual State-required inspections.
- Participates in the development of specifications for new fire/rescue apparatus (and may coordinate input of Mechanic Technicians) as assigned to the Apparatus Committee, in the invitation for bid (IFB) and bidder selection process, in the inspection of new fire/rescue apparatus during manufacture at various factory locations, and in the investigation of fire/rescue vehicle collisions to determine whether mechanical failure or malfunction contributed to a collision, or the extent of the damage.
- Ensures that the work area is clean, safe, and orderly and that various “shop-keeping” tasks are performed.

- Fills in for absent crew chiefs.
- Acts for the Equipment Services Coordinator, as authorized, in his/her absence.
- Performs related duties.

(2) Performs a full array of journey level mechanic functions:

- Performs preventive maintenance checks and services on equipment – checks tire wear, lubricates parts, replaces seals/wear rings, replaces filters, including high-efficiency particulate air (HEPA) filters in ambulance air filtration systems, etc.
- Diagnoses defects and causes of mechanical, hydraulic, electrical, electronic/computerized-based and other types of problems to determine type(s) and extent of repairs needed using diagnostic tools, manufacturers' repair/maintenance manuals, service bulletins, schematics and other guides, and journey level judgment.
- Maintains, tests and repairs specialized fire/rescue apparatus and medium-large fire/rescue/EMS equipment, such as fire pump systems, water delivery systems, foam delivery systems, quint apparatus, aerial ladder systems/devices, self-contained breathing apparatus (SCBA) mounting platforms and air fill stations.
- Connects, meshes, aligns, and adjusts items and systems to assure proper operation of the complete system or vehicle.
- Tears down and rebuilds components and assemblies of gasoline and diesel powered vehicles by fitting and installing needed parts such as pistons, valves, bearings, gears, and cylinders to appropriate tolerances; makes changes or modifications in accordance with specifications and guidelines.
- Maintains, tests and repairs hand-held/small equipment and tools used in fire/rescue/EMS operations, such as fans, hydraulic tools, Hurst tools, chain saws and circular saws.
- Road/performance tests vehicles and equipment during and occasionally upon completion of maintenance and/or repair work.
- Maintains service records and records of time and materials used.
- Works in machine shop and rebuilds equipment, parts, and materials needed for repair work; and fabricates parts, hydraulic hoses, and tools when unavailable.
- Handles hazardous waste properly, maintains work area in a clean and orderly manner and performs various "shop-keeping" tasks.
- Requests parts and checks them for compliance with manufacturers' specifications.
- Provides guidance and training to uniformed fire/rescue personnel on the mechanical aspects of apparatus and equipment they use.
- Responds to breakdowns in the field, including fire scenes, as needed, and may operate a tow truck.
- Performs related duties as required.

KNOWLEDGE, SKILLS, AND ABILITIES:

- Knowledge of, and skill in, planning, assigning and reviewing work and performing supervisory personnel functions at the first level of supervision, or demonstrated ability to rapidly acquire this body of knowledge and these skills on-the-job, to plan, assign and review work and supervise subordinates.
- Considerable (journey level) knowledge of the mechanical makeup, operation, and working relationships of a variety of medium-heavy duty truck systems, assemblies and parts, including such major systems as diesel, multi-fuel, and gasoline engines; fuel systems; exhaust systems;

clutches; manual transmissions; automatic transmissions; power distribution systems; starting and charging systems; steering systems; air and hydraulic braking systems; air and hydraulic antilock braking systems; HVAC-R systems, chassis and gear reduction systems, including those with torque converters, planetary gears, and multiple gear ranges; and hydraulic lifting, loading, turning, positioning and stabilizing systems (including their mechanical, hydraulic, pneumatic and electronic controls). Examples of application of this body of knowledge include skill in removing and tearing down major components and assemblies including engines, transmissions, and power take offs; skill in rebuilding, adjusting, re-installing, aligning and meshing components and assemblies; and skill in troubleshooting and repairing power take-off equipment.

- Knowledge of, or the ability to rapidly acquire knowledge of, the design of “made-to-order” fire/rescue apparatus and equipment, and how used and operated, to diagnose and repair fire/rescue and EMS vehicles and equipment at the journey level, to inform vehicle operators of key aspects of vehicle/equipment operation that affect maintenance and performance, to participate in development of specifications for, and inspection of, new apparatus, and to perform related functions.
- Knowledge of how computer, electrical, transistorized, and other non-mechanical systems tie in with and affect the operation of mechanical systems to perform and supervise diagnoses and other journey level functions.
- Knowledge of the (a) equipment standards and (b) tools, equipment, diagnosis, and test procedures and practices used in the repair and preventive maintenance of fire/rescue and EMS vehicles, apparatus and equipment (such as fire pump systems, water delivery systems, foam delivery systems, quint apparatus, aerial ladder systems/devices and crew compartments), as well as the maintenance, repair, fabrication and mounting of fire/rescue tools, equipment, hoses and appliances [such as self-contained breathing apparatus (SCBA) mounting platforms and air fill stations], to perform and supervise journey level mechanic functions.
- Knowledge of the Federal, Maryland and County safety programs, rules and procedures, and of precautions of the fire/rescue apparatus and equipment mechanic trade, to work safely and to ensure that crew members work safely. (Knowledge of State- and County-specific safety programs, rules and procedures are to be rapidly acquired on the job, if not possessed at placement.)
- Skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes the ability to recognize subtle aspects of problems and identify relevant information. Examples include skill in planning, assigning and reviewing work; in recognizing improper or sub-optimum trade practices; in recognizing, assessing and solving personnel problems; in diagnosing, and supervising the diagnosis of, mechanical, electrical and electronic malfunctions (including problems related to multiplex electrical systems common to high-performance medium and heavy duty trucks); in interpreting schematics; in applying technical and industry standards to inspect, examine, perform (and supervise performance of) journey level work on specialized fire/rescue/EMS apparatus and equipment; and in using the hand and power tools and equipment of the fire/rescue/EMS equipment mechanic trade.
- Skill in oral communication to understand verbal information (including facts, assertions and arguments) and to express such information verbally so that others will understand and, at times, be convinced or persuaded. Examples include providing on-the-job training and special instructions, orienting personnel in the diagnosis and repair of new equipment; and in

coordinating with FRS station/company personnel and vendors about maintenance, repair and testing of vehicles/apparatus/equipment.

- Skill in written communication to understand written information, draw inferences, form hypotheses and develop logical arguments, and to express such information in writing so that others will understand. Examples include reading understanding service manuals/bulletins, completing records of work performed, using various County administrative guides, and helping prepare specifications of new vehicles/apparatus/equipment.
- Interpersonal skills to interact with others in a businesslike, customer service-oriented manner.
- Skill in working as a team member to provide excellent customer service.
- Skill in using a computer for communication (email), research (Internet) and other purposes.
- Ability to lift and move objects that weigh up to one hundred (100) pounds, and occasionally objects that weigh in excess of one hundred (100) pounds, obtaining assistance or using mechanical advantage, as appropriate.
- Ability to work overhead or in stretched, cramped, awkward, tiring, and uncomfortable positions.
- Ability to safely operate all fire/rescue apparatus and their respective components.
- Ability to use and wear personal protective clothing and equipment when exposed to dust, fumes, and other irritants to eyes, nose, ears, skin and respiratory system.
- Ability to distinguish between color-coded objects, such as electrical wiring.
- Ability and willingness to provide emergency repair service on fire/rescue/EMS apparatus and equipment outside the regular shop location.

MINIMUM QUALIFICATIONS:

Experience: Any combination of education, experience and training equivalent to six (6) years of verifiable, progressively responsible experience in problem diagnosis, repair, maintenance and inspection of automobiles, light-medium-heavy duty diesel or gasoline trucks, construction equipment or similar equipment, which included at least three (3) years as a full performance level mechanic diagnosing, repairing, maintaining and inspecting fire/rescue/EMS vehicles, apparatus and equipment.

Education: Completion of high school or High School Certificate of completion recognized in the State of Maryland.

Equivalency: An equivalent combination of education and experience may be substituted.

License: At Time of Employment Application: Possession of a valid, current Class "C" or equivalent motor vehicle operator's license from the applicant's state of residence. **First Day of County**

Employment: Possession of *at least* a valid Instructional Permit for Class "A" commercial driver's license (CDL) issued by the applicant's state of residence. In addition, upon appointment/placement, employees in this class must possess and maintain a National Fire Protection Association (NFPA):

(a) Emergency Vehicle Technician (EVT) Level I certification, which includes successful completion of examinations in:

- T4 Medium-Heavy Truck, Brakes (National Institute for Automotive Service Excellence - ASE)
- T5 Medium-Heavy Truck, Suspension and Steering (ASE)
- T8 Medium-Heavy Preventive Maintenance Inspection (ASE)
- F1 Maintenance, Inspection and Testing of Fire Apparatus (EVT)
- F2 Design and Performance Standards of Fire Apparatus (EVT), and

(b) EVT Level II certification, which includes successful completion of examinations in:

- T2 Medium-Heavy Truck, Diesel Engines (ASE)
- T3 Medium-Heavy Truck, Drive Train (ASE)
- T6 Medium-Heavy Truck, Electrical/Electronic Systems (ASE)

- F3 Fire Pumps and Accessories (EVT)
- F4 Fire Apparatus Electrical Systems (EVT)

Upon Completion of Probationary Period: Possession of a Class "A" CDL issued by the employee's state of residence; US Environmental Protection Agency-approved certification (for refrigerant recovery appropriate to the equipment serviced/inspected); and a Maryland State Forklift Operator License. In addition, within thirty-six (36) months from date of appointment/placement, employees in this class must obtain and maintain EVT Master Level certification, which includes successful completion of examinations in:

- T1 Truck, Gasoline Engines (ASE)
- T7 Heating, Ventilating and Air Conditioning (ASE)
- F5 Aerial Fire Apparatus (EVT)
- F6 Allison Automatic Transmissions (EVT)

PROBATIONARY PERIOD:

The probationary period must be six (6) months for a full-time or part-time employee appointed to a merit system position, and six (6) months for a promoted employee, during which time work performance will be carefully evaluated. Continuation in this class will be contingent upon successful completion of the probationary period.

MEDICAL EXAM PROTOCOL: Pre-placement Core II Exam.

Class Established: September 2015

Date Revised: February 2020

Revised: "Probational Period"